

Medical Research Council Unit

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Dear Cy,

It was very kind of you to send me such a detailed account of your poppetry. It was just as well you did as although there were three people at Ponte's meeting who had seen you perform with the beads not one of them could give an entirely correct account of the proposed mechanism.

My only comment on your description is that it does not bring out clearly the fact that for the loop to trace the two ends of that duplex must be continually rotating. (Alternatively, if that duplex does not rotate, but the loop "rotates" instead, then the new growing chain must continually rotate round the old duplex). The fact that the new chain is connected to the old duplex by only a single bond does not remove this difficulty.

The other point, which puzzled me at first, is that the mechanism does not explain your "star" results - in fact the old "Delbruck dilemma" trouble. However I take it that you are assuming that the two chains of a parent duplex do get separated when there is no recombination.

This brings me to one criticism of your idea: suppose the jump only takes place towards the far end of the chains, when the process is nearly finished. Then the "back-winding" process has to go almost the whole length of the chains. This is not impossible, but I can't say I like it.

In general, I feel your scheme is about as good as one can do, but it doesn't exactly fire me with enthusiasm. I presented it at Ponte's conference as the best that could be done at the present time.

Not much really emerged at the conference. Brecht had some new evidence that reciprocal recombinants do not occur in T_1 . As to recombination in higher organisms the general feeling seemed to be that at the moment it was hopeless to try to find a uniform mechanism which applied to both higher organisms and to phage. It was thought that in any case Taylor's tritium technique, if it could be applied to melons, would settle the main point directly.

The only idea I had was that things would be much simpler if DNA was not helical! Perhaps magnesium straightens it out!!

Seymour was here for a few days, during which time he found a house to rent in September. Sydney is just starting on the search for the h protein.

Best wishes to everyone.

F. H. C. Crick